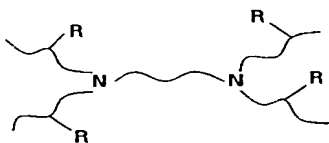


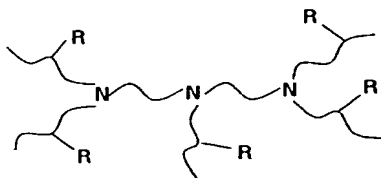
Claims

- [1] A preparation method of a polyamide thin film composite (TFC) reverse osmosis membrane using interfacial polymerization of an amine aqueous solution and amine-reactive compound, the preparation method comprising the steps of:
 (a) forming a polyamide active layer through interfacial polymerization by contacting a surface of a porous support with an amine aqueous solution containing a polyfunctional aromatic amine monomer and an organic solution containing polyfunctional acyl halide monomer as an amine-reactive compound; and
 (b) performing post-treatment preceded by the forming of the polyamide active layer by contacting the polyamide active layer with an aqueous solution containing 0.1 to 100 wt% of polyfunctional tertiary alcohol amine.
- [2] The preparation method of claim 1, wherein the polyfunctional aromatic amine monomer is selected from the group consisting of 1,4-phenylenediamine, 1,3-phenylenediamine, 2,5-diaminotoluene, diphenyldiamine, and 4-methoxy-m-phenylenediamine.
- [3] The preparation method of claim 1, wherein the polyfunctional acyl halide monomer as the amine-reactive compound is selected from the group consisting of trimesoyl chloride (TMC), terephthaloyl chloride (TPC) and isophthaloyl chloride (IPC).
- [4] The preparation method of claim 1, wherein the polyfunctional tertiary alcohol amine comprises at least two tertiary amines having substituted alcohol group on the hydrocarbon side chains.
- [5] The preparation method of claim 1, wherein the polyfunctional tertiary alcohol amine is represented by the Formula 1 or 2:

[Formula 1]



[Formula 2]



- [6] The preparation method of claim 1, wherein the polyfunctional tertiary alcohol amine is selected from the group consisting of N,N,N',N'-tetrakis(2-hydroxyl propyl)ethylenediamine, N,N,N',N'-tetrakis(2-hydroxylethyl)ethylenediamine, N,N,N',N'',N'''-pentakis(2-hydroxypropyl)diethylenetriamine and 2,2',2'',2'''-ethylenedinitrilotetraethanol.
- [7] The preparation method of claim 1, wherein the content of the polyfunctional tertiary alcohol amine in the step of performing post-treatment is 0.1 to 100 wt%
- [8] The preparation method of claim 1, further comprising drying the polyamide TFC reverse osmosis membrane after performing the post-treatment.
- [9] The preparation method of claim 8, wherein the drying conditions include a temperature in the range of from about room temperature to about 150°C and a period of time in the range of from about 10 seconds to 1 hour.
- [10] A polyamide thin film composite (TFC) reverse osmosis membrane prepared by the method of claim 1.